

DOCUMENT RESUME

ED 219 699

CG 016 123

AUTHOR Fulton, Margaret A.
TITLE Worker Motivation Study: Preliminary Analysis.
PUB DATE Apr 81
NOTE 12p.; Paper presented at the Annual Convention of the Southwestern Psychological Association (27th, Houston, TX, April 16-18, 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Employee Attitudes; *Employees; Factor Analysis; Feminism; Goal Orientation; Higher Education; Incentives; *Motivation; *Personality Traits; *Sex Differences; Work Attitudes

IDENTIFIERS *Worker Motivation Scale (Wherry and South)

ABSTRACT

Since the Hawthorne Studies gave birth to the human relations approach to management, employee motivation, defined as an intervening variable(s) that accounts for factors within an individual that arouse, maintain, and channel behavior toward a goal, has been of much interest. An attempt was made to replicate the factor structure of the Wherry and South Worker Motivation Scale, by administering the instrument to 792 university employees. The results showed replication to some extent. However, the findings uncovered different factor structures for males and females. The most interesting finding was a new component for women, upward striving, which appeared to reflect the impact of the women's movement. (Author/JAC)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED219699

Worker Motivation Study:

Preliminary Analysis

Margaret A. Fulton

Oklahoma State University

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- ☒ This document has been reproduced as received from the person or organization originating it.
- ☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Margaret Fulton

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

Running head: Worker Motivation Study: Preliminary Analysis

06 016123

Worker Motivation Study: Preliminary Analysis

Motivation is defined in the Dictionary of Psychology (Chaplin, 1975) as "an intervening variable which is used to account for factors within the organism which arouse, maintain, and channel behavior toward a goal" (p. 325-326). This dictionary also states that the concept of motive is among the most controversial and least satisfactory of the many intervening variables that psychologists use. Among the other definitions given for motive are: (1) the conscious reason given for behavior, (2) "an unconscious reason for behavior", (3) a bodily drive, or (4) "a set or attitude which guides behavior" (p. 326).

Historically, the concept of motivation has been studied by lengthy projective techniques or interviews. Since the Hawthorne Studies (Mayo, 1933) gave birth to the human relations approach to management, the study of the variable or variables referred to as motivation of the worker has been of much interest.

Recently, Wherry and South (1977) published a pencil and paper questionnaire designed to provide an easily administered tool to measure worker motivation. This questionnaire was made up of 70 items each of which involved a short statement such as 'appreciate praise when

it's due' or 'like to compete against other good workers.' Five response alternatives -- almost never, seldom, it depends or varies a lot, frequently, and almost always -- remained the same throughout and indicated the frequency with which respondents would make the statements.

Data were collected by having Masters of Business Administration students at Ohio State University take questionnaires to their jobs and ask coworkers to complete them. In data from 240 men and women, a multiorder solution was obtained by factor analysis followed by an orthogonal, hierararchical transformation (Wherry, 1959). This revealed a three order structure consisting of a general factor, two ancillary subgeneral factors, and six minor factors, three of which were ancillary to each subgeneral factor. The factors in this solution were labelled as shown in Table 1.

Insert Table 1 about here

Direct (self report) and indirect (job status) criteria were also used to validate the questionnaire. Other variables considered were personal, job and organizational. Wherry and South found no significant sex relationship between test scores and sex and no job or

organizational variables were found to be related to test scores.

University Worker Motivation Study

This study was undertaken to see if the dimensions identified by Wherry and South would be present in responses from other workers. All data were collected from University employees. The new sample included a larger number of workers and workers at higher and lower levels than in the Wherry and South sample. Other major differences in the demographics of the samples in the two studies can be seen in Table 2.

Insert Table 2 about here

Data Analysis

The data were subjected to a multi-order factor analysis as a whole and subsequently for males and females. In each case, the multiorder analysis began with the extraction of first-order principal factors. These principal factors were then rotated by the promax procedure to a first-order oblique solution. Next, second-order principal factors were extracted from the first-order oblique factor score intercorrelations, and, if possible, rotated by the promax procedure to a second-order oblique solution. The

development of higher order solutions was halted when only one factor was extracted and it accounted for nearly all of the variance in whatever order of oblique factor score intercorrelations were being analyzed. After halting the development of higher order solutions, all orders of solutions were subjected to an orthogonal hierarchical transformation (Schmid & Leiman, 1957; Wherry, 1959).

Results and Discussion

The analysis yielded a three-order solution when all the data were analyzed. When women and men were analyzed separately, however, the method yielded only a two-order solution for each subgroup. While these solutions were less similar to the Wherry and South (1977) solution (which was based on a mixture of men and women), they were sufficiently different to raise questions about the interpretation of the analysis based on all the data. Thus, only the two separate solutions for men and women will be discussed in detail.

The results obtained for women produced a two-order five primary factor solution. There was a general motivation factor. The five primary factors for women are:

- A. Demonstration of Ability
- B. Alert, High Output, & Attentive
- C. 'Upward Striving

D. Behavioral Competitiveness

E. Work Group Inclusion

The results obtained for men produced a two-order six primary factor solution. There was a general motivation factor and the five primary factors for men are:

B. Alert, High Output & Attentive

G. Autonomy & Responsibility

H. Long Hours & Tough Deadlines

I. Active & Energetic

D. Financial Competitiveness

E. Appreciation Seekers

The factor structures obtained for men and women and the comparison to the Wherry and South (1977) study are presented in Table 3.

Insert Table 3 about here

The most interesting findings are:

(1) Factors A & C are only in females. Factor C, the upward striving factor contains statements that mirror the women's movement.

(2) The extrinsic appreciation factor E in men was a good replication of Wherry and South's (1977) factor.

In women, however, it was not quite as good a replication as in males. The female factor was more appropriately entitled work group inclusion to indicate the different combination of statements in the factor.

(3) The B factor alert, hioutput & attentive was replicated across males and females in this study but was only a fair replication of the original study for females and a poor replication for men.

(4) Competitiveness (factor D) - this factor showed as behavioral competitiveness in females and financial competitiveness in males.

References

Chaplin, J. P. Dictionary of psychology. New York: Dell Publishing Co., Inc., 1975.

Mayo, E. The human problems of an industrial civilization. Cambridge, Mass.: Harvard University Press, 1933.

Schmid, J. & Leiman, J. M. The development of hierarchical factor solutions. Psychometrika, 1957, 22, No. 1, 53-62.

Wherry, R. J. Hierarchical factor solutions without rotation. Psychometrika, 1959, 24, 45-51.

Wherry, R. J. Sr., & South, J. C. A worker motivation scale. Personnel Psychology, 1977, 30, 613-636.

TABLE 1

Wherry & South's Factor Structure^a

General Factor

A.. Competence-Achievement Motivation (Intrinsic)

- a1. Daring, Ingenious, Self Improvers
- a2. Alert, Responsible, High Producers
- a3. Goal-Deadline Attainers

B. Reward Seeking Motivation (Extrinsic)

- b1. Status, Recognition Seekers
 - b2. Immediate Financial Reward Seekers
 - b3. Appreciation Seekers
-

^aFactor Structure quoted from Wherry & South (1977) p.619.

TABLE 2
Demographic Information of Subjects for Two Studies

Variables	Midwestern University	Wherry & South
Total Responses	797 ^a	240
Males	373	174
Females	419	66
No Gender Coding	5	--
Educational Level	modal high school education hi school 367 some college 156 college grad 37 grad-MS 61 post MS-Ph.D. 169	modal some college range grade school to to advanced degrees
Average Age	Mean=39.5yrs	Mean=33.5yrs
Time on present job	Mean=6.55yrs	Mean=5.87yrs
Job Classification	Physical Plant hourly=217 Student Services hourly=312 salaried=26 administrators=72 Faculty=170 ^b	non professional=57 supervisory=25 professional=80 managers=53 other=25
Work Setting	100% University	industrial=171 other=44 government=25 Avg employed in plant=573 With company employing=5,500

^aThere were 57 additional returns not coded because they were incomplete
^b40% of those mailed out.

TABLE 3
Obtained Factor Structure Compared to
Wherry & South's Study and Across Men & Women

Factors	Replication ^a of Factors	
	To Wherry & South's Study	Between Men & Women
Women		
A. Demonstration of Ability	Fair a1	Only in women
B. Alert, High Output & Attentive	Fair a2	Fair
C. Upward Striving	Ext/Int mix ^b	Only in women
D. Behavioral Competitiveness	Poor	Poor
E. Work Group Inclusion	Fair	Poor
Men		
B. Alert, High Output & Attentive	Poor a2	Fair
G. Autonomy & Responsibility	Poor a2	Only in men
H. Long Hours & Tough Deadlines	Poor a3	Only in men
I. Active & Energetic	New Int mix	Only in men
D. Financial Competitiveness	Poor b2	Poor
E. Appreciation Seekers	Good b3	Fair

^aAmount of Replication
good=all salient loadings were in both structures
fair=approximately half of the salient loadings were found
poor=a couple of the salient loadings were found

^bExt=Extrinsic, Int=Intrinsic